## REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 38, 40-43, 47-58, 75-82 and 84-89 are in the case.

## I. CLAIM OBJECTIONS

Claim 83 has been objected to as allegedly being a duplicate of claim 57. In response, without conceding to the merit of this rejection, claim 83 has been cancelled without prejudice.

## II. THE 35 U.S.C. §112, SECOND PARAGRAPH, REJECTION

Claims 38, 40-43, 47-58 and 75-88 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for the reasons detailed on pages 3 and 4 of the Action. That rejection is respectfully traversed.

Claims 38 and 75 have been objected to as reciting a "method of synthesis". Without an indication of the product that is produced by the method. In response, claims 38 and 75 have been amended to indicate that the synthesis is of a "compound attached to an active material...". The Examiner's suggestion has been adopted in large part, although it is believed more appropriate to refer to the active material since this is more specific as opposed to referring to a resin. Withdrawal of the outstanding 35 U.S.C. §112, second paragraph, rejection is now respectfully requested.

## III. THE ANTICIPATION REJECTION

Claims 38, 47, 48, 51-54, 56, 58, 75, 76, 78, 81 and 82 stand rejected under 35 U.S.C. §102(a) as allegedly anticipated by U.S. Patent 5,834,121 to Sucholeiki et al. That rejection is respectfully traversed.

The invention is directed to a method of synthesis of a compound attached to an active material. The method uses a porous device comprising a body having an internal region which is porous, wherein a multiplicity of particles of an active material are entrapped within the internal region and held in position by a physical weld formed by sintering. The active material comprises a resin and the method of synthesis comprises the step of contacting the porous device with a first reagent under conditions which cause the first reagent to react with the active material, so that a bond is formed between the active material and the first reagent or a fragment thereof.

The Examiner's attention is directed at the outset to the attached extract from the Collins English Dictionary which includes a definition of the term "weld". The term is defined as "to unite (pieces of metal or plastic) together, as by softening with heat and hammering or by fusion". It is submitted that a covalent bond between two plastics materials does not constitute a "weld".

Sucholeiki discloses (see column 2, line 43) "a composite bead comprising a plurality of primary beads or particles and a mesh or matrix of a thermoplastic polymer resin that is microporous". The primary bead "must be capable of participating in a core-shell polymerisation to form the composite bead" (see column 2, line 52 *et seq.*, particularly column 2, line 59 *et seq.; c*olumn 5, line 3 *et seq* should also be noted in this regard). Clearly, the primary bead is intended to be **covalently** bonded and thereby

incorporated into the composite bead. Based on the definition of "weld" presented above, it is believed that such a covalent bond does not constitute a "weld".

Furthermore, in Sucholeiki, the primary beads are not "held in position by a physical weld formed by sintering" in the manner described in accordance with the present invention. Rather, they are held in position by polymerization of monomers which form the mesh/matrix material. In forming the composite beads of Sucholeiki, the mesh/matrix material is, according to column 3, line 2, "formed from one or more monomers...".

It is clear, therefore, that Sucholeiki incorporates the primary beads into a mesh/matrix by forming covalent bonds between the primary beads and monomers which are reacted to form the mesh/matrix material. This is reinforced by Example 1 whereby the composite beads are formed by taking primary beads and reacting them with monomers (styrene) in the presence of a catalyst (benzoyl peroxide). Clearly, the process of Sucholeiki does not involve formation of a physical weld by sintering as defined, for example, in claims 38 and 75.

Furthermore, according to column 3, line 46 of Sucholeiki, it is the "microporous polymer resin matrix that has the capacity for functionalisation or derivatisation". In contrast, in accordance with the present invention, "a multiplicity of particles of an active material" react with the first reagent. Sucholeiki does not disclose a method of synthesis of a compound on <u>particles</u> of an active material – it only discloses reaction of a matrix material which is not particulate.

Based on the above, it is clear that Sucholeiki does not anticipate the presently claimed invention. Withdrawal of the outstanding anticipation rejection is respectfully requested.

## IV. THE OBVIOUSNESS REJECTIONS

Claims 38, 40-43, 47-58, 75-84 and 86-88 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent 5,770,358 to Dower et al in view of Sucholeiki et al. Claim 85 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Dower and Sucholeiki and further in view of U.S. Patent 6,147,159 to Hu et al. Claims 38, 40-43, 47-58, 75-84 and 86-88 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Sucholeiki (U.S. Patent 5,684,130) and Sucholeiki (U.S. Patent 5,834,121). Those rejections are respectfully traversed.

With reference to the first obviousness rejection, the Examiner acknowledges that "the method of Dower et al does not expressly disclose that the solid support (active material) is entrapped within a porous support and the porous support is a thermoplastic inert material". It is also to be noted that, as compared to, for example, claim 38, there is no suggestion in Dower that "a multiplicity of particles of an active material are entrapped within the internal region and held in position by a physical weld formed by sintering".

Moreover, for the reasons discussed above with reference to the anticipation rejection, Sucholeiki does not disclose a weld. Accordingly, a person of ordinary skill would not have been motivated to modify Dower in view of Sucholeiki and arrive at the subject matter of the present invention.

Referring to the second obviousness rejection relating to claim 85, that claim is dependent on claim 38 and thereby incorporates the features of claim 38 which are clearly patentably distinguished for the reasons discussed earlier. The asserted combination of Dower, Sucholeiki and Hu clearly does not render claim 85 obvious.

In regard to the third obviousness rejection over the combination of the '130 and '121 Sucholeiki patents, the '130 patent discloses very little on the nature of the solid support or solid particles of interest. At column 5, line 7 *et seq*, the '130 patent describes the solid support used as being a "composite particle". However, the '130 patent does not disclose how such a composite particle is formed. If one refers to the examples, it will be noted that the particles are, according to column 8, line 29 *et seq*, "obtained from Polymer Laboratories Limited...United Kingdom". As there is no detail provided as regards the form of the particles to be used in the '130 patent, it is clear that the '130 patent is not a relevant starting point for consideration of the patentability of claims of the present application. In any event, even if the '130 and '121 patents are combined (it is believed that one of ordinary skill would not have been motivated to do this), the subject matter of the present invention would not be arrived at, since neither document discloses or suggests that "a multiplicity of particles of an active material are entrapped within the internal region and held in position by a physical weld formed by sintering...". Withdrawal of this obviousness rejection based on the '130 and '121 patents is therefore in order and is requested.

Summarizing, none of the cited references discloses or suggests the provision of a "physical weld" as defined in the present claims. Furthermore, it is noted that column 2, lines 26-27 of the '121 patent specifically disclose the swelling and contraction of the

composite particles. The provision of a physical weld in accordance with the present invention can mitigate against swelling/contraction in use. It is clear therefore that one of ordinary skill would not have been motivated to combine the disclosures relied on by the Examiner. Absent any such motivation, a *prima facie* case of obviousness is not generated in this case. Reconsideration and withdrawal of all of the outstanding obviousness rejections are accordingly respectfully requested.

Favorable action is awaited.

Respectfully submitted,

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Attachment: Extract from the Collins English Dictionary

very short sleek grey coat and short tail. [C20: named after Weimar, where the breed was developed]

**Weimar Republic** *n* the German republic that existed from 1919 to Hitler's accession to power in 1933

**Weinberg** ('waɪnbɜːg) *n* **Steven**, born 1933, U.S. physicist, who shared the Nobel prize for physics (1979) with Sheldon Glashow and Abdus Salam for his role in formulating the electroweak theory.

**weir** (wɪə) *n* **1** a low dam that is built across a river to raise the water level, divert the water, or control its flow **2** a series of traps or enclosures placed in a stream to catch fish. [Old English *wer*; related to Old Norse *ver*, Old Frisian *were*, German *Wehr*]

**Weir** (wɪə) *n* **1 Judith**, born 1954, Scottish composer, noted esp. for her opera *A Night at the Chinese Opera* (1987). **2 Peter**, born 1944, Australian film director; his films include *Dead Poets Society* (1989) and *The Truman Show* (1998).

**weird** (wɪəd) *adj* **1** suggestive of or relating to the supernatural; eerie **2** strange or bizarre. **3** *Archaic*, of or relating to fate or the Fates. ● *n* **4** *Archaic*, *chiefly Scot.* **4a** fate or destiny. **4b** one of the Fates. **5 dree one's weird**. *Scot.* see **dree**. ● *vb* **6** (*tr*) *Scot.* to destine or ordain by fate; predict. [Old English *(ge)wyrd* destiny; related to *weorthan* to become, Old Norse *urthr* fate, Old Saxon *wurd*, see WORTH¹] ▸ **'weirdly** *adv* ▸ **'weirdness** *n*

**weirdo** ('wɪədəʊ) *or* **weirdie** ('wɪədɪ) *n*, *pl* **-dos** *or* **-dies** *informal*. a person who behaves in a bizarre or eccentric manner

**weird sisters** *pl n* **1** another name for the **Fates**. **2** *Norse myth.* another name for the **Norns** (see **Norn**¹).

**Weismannism** ('vaɪsmənˌɪzəm) *n* the doctrine of the continuity of the germ plasm. This theory of heredity states that all inheritable characteristics are transmitted by the reproductive cells and that characteristics acquired during the lifetime of the organism are not inherited. [C19: named after August *Weismann* (1834–1914), German biologist]

**Weisshorn** ('vaɪsˌhɔːn) *n* a mountain in S Switzerland, in the Pennine Alps. Height: 4505 m (14 781 ft.).

**Weissmuller** ('vaɪsˌmʊlə) *n* **John Peter** known as *Johnny*. 1904–84, U.S. swimmer and film actor, who won Olympic gold medals in 1924 and 1928 and played the title role in the early Tarzan films.

**Weizmann** ('vaɪtsmən, 'waɪz-) *n* **Chaim** ('xaɪɪm). 1874–1952, Israeli statesman, born in Russia. As a leading Zionist, he was largely responsible for securing the Balfour Declaration (1917); first president of Israel (1949–52).

**weka** ('weɪkə, 'wiːkə) *n* any flightless New Zealand rail of the genus *Gallirallus*, having a mottled brown plumage and rudimentary wings. Also called: **Maori hen**, **wood hen**. [C19: from Maori, of imitative origin]

**welch** (welʧ) *vb* a variant spelling of **welsh**. ▸ **'welcher** *n*

**Welch** (welʧ) *adj* an archaic spelling of **Welsh**¹.

**welcome** ('welkəm) *adj* **1** gladly and cordially received or admitted: *a welcome guest* **2** bringing pleasure or gratitude: *a welcome gift* **3** freely permitted or invited: *you are welcome to call*. **4** under no obligation (only in such phrases as **you're welcome** or **he's welcome**, as conventional responses to thanks). ● *sentence substitute*. **5** an expression of cordial greeting, esp. to a person whose arrival is desired or pleasing ● *n* **6** the act of greeting or receiving a person or thing, reception: *the new theory had a cool welcome*. **7 wear out one's welcome**. to come more often or stay longer than is acceptable or pleasing ● *vb* (*tr*) **8** to greet the arrival of (visitors, guests, etc.) cordially or gladly. **9** to receive or accept, esp. gladly. [C12: changed (through influence of WELL¹) from Old English *wilcuma* (agent noun referring to a welcome guest), *wilcuman* (a greeting of welcome), from *wil* WILL² + *cuman* to come] ▸ **'welcomely** *adv* ▸ **'welcomeness** *n* ▸ **'welcomer** *n*

**weld**¹ (weld) *vb* **1** (*tr*) to unite (pieces of metal or plastic) together, as by softening with heat and hammering or by fusion. **2** to bring or admit of being brought into close association or union. ● *n* **3** a joint formed by welding. [C16: variant probably based on past participle of WELL² in obsolete sense to boil, heat] ▸ **'weldable** *adj* ▸ **ˌweldo'bility** *n* ▸ **'weldor** *or* **'welder** *n* ▸ **'weldless** *adj*

**weld**² (weld), **wold**, *or* **woald** (wəʊld) *n* **1** a yellow dye obtained from the plant dyer's rocket. **2** another name for **dyer's rocket**. [C14: from Low German; compare Middle Low German *wolde*, *waude*, Dutch *wouw*]

**Weld** (weld) *n* Sir **Frederick Aloysius**, 1823–91, New Zealand statesman, born in England; prime minister of New Zealand (1864–65).

**welding rod** *n* *Electrical engineering*. filler metal supplied in the form of a rod, usually coated with flux.

**Weldon** ('weldən) *n* **Fay**, born 1931, British novelist and writer. Her novels include *Praxis* (1978), *Life and Loves of a She-Devil* (1984), *Worst Fears* (1996), and *Nobody Likes Mel* (1997).

**welfare** ('welˌfeə) *n* **1** health, happiness, prosperity, and well-being in general **2a** financial and other assistance given to people in need **2b** (*as modifier*): *welfare services*. **3** Also called: **welfare work**. plans or work to better the social or economic conditions of various underprivileged groups. **4 the welfare**. *informal, chiefly Brit.* the public agencies involved with giving such assistance: **5 on welfare**. *Chiefly U.S. and Canadian*. in receipt of financial aid from a government agency or other source. [C14: from the phrase *wel fare*; related to Old Norse *velferth*, German *Wohlfahrt*; see WELL¹, FARE]

**welfare economics** *n* (*functioning as sing*) the aspects of economic theory concerned with the welfare of society and priorities to be observed in the allocation of resources.

**welfare state** *n* **1** a system in which the government undertakes the chief responsibility for providing for the social and economic security of its population, usually through unemployment insurance, old-age pensions, and other social-security measures. **2** a social system characterized by such policies.

**welfarism** ('welˌfeərɪzəm) *n* policies or attitudes associated with a welfare state. ▸ **'welˌfarist** *n*

**welkin** ('welkɪn) *n* *Archaic*. the sky, heavens, or upper air. [Old English *wolcen*, *welcen*; related to Old Frisian *welken*, Old Saxon, Old High German *wolcan*]

**Welkom** ('welkəm, 'vel-) *n* a town in central South Africa, developed rapidly following the discovery of gold. Pop.: 228 000 (latest est.).

**well**¹ (wel) *adv* **better**, **best**. **1** (*often used in combination*) in a good, skilful, or pleasing manner: *she plays the violin well*. **2** in a correct or careful manner: *listen well to my words*. **3** in a comfortable or prosperous manner: *to live well*. **4** (*usually used with auxiliaries*) suitably, fittingly: *you can't very well say that*. **5** intimately: *I know him well*. **6** in a kind or favourable manner: *she speaks well of you*. **7** to a great or considerable extent, fully: *to be well informed*. **8** by a considerable margin: *let me know well in advance*. **9** (preceded by *could*, *might*, or *may*) indeed: *you may well have to do it yourself*. **10** *informal*. (*intensifier*): *well safe*. **11 all very well**. used ironically to express discontent, dissent, etc. **12 as well**. **12a** in addition; too. **12b** (preceded by *may* or *might*) with equal effect: *you might as well come*. **13 as well as**. in addition to. **14 (just) as well**. preferable or advisable: *it would be just as well if you paid me now*. **15 leave well (enough) alone**. to refrain from interfering with something that is satisfactory. **16 well and good**. used to indicate calm acceptance, as of a decision: *if you accept my offer, well and good*. **17 well up in**. well acquainted with (a particular subject); knowledgeable about ● *adj* (*usually postpositive*) **18** (*when preminential, usually used with a negative*) in good health: *I'm very well, thank you; he's not a well man*. **19** satisfactory, agreeable, or pleasing. **20** prudent; advisable: *it would be well to make no comment*. **21** prosperous or comfortable. **22** fortunate or happy: *it is well that you agreed to go*. ● *interj* **23a** an expression of surprise, indignation, or reproof. **23b** an expression of anticipation in waiting for an answer or remark. ● *sentence connector*. **24** an expression used to preface a remark, gain time, etc.: *well, I don't think I will come*. [Old English *wel*; related to Old High German *wala*, *wola* (German *wohl*), Old Norse *vel*, Gothic *waila*]

**well**² (wel) *n* **1** a hole or shaft that is excavated, drilled, bored, or cut into the earth so as to tap a supply of water, oil, gas, etc. **2** a natural pool where ground water comes to the surface. **3a** a cavity, space, or vessel used to contain a liquid. **3b** (*in combination*): *an inkwell*. **4** an open shaft through the floors of a building, such as one used for a staircase. **5** a deep enclosed space in a building or between buildings that is open to the sky to permit light and air to enter. **6a** a bulkheaded compartment built around a ship's pumps for protection and ease of access. **6b** another word for **cockpit**. **7** a perforated tank in the hold of a fishing boat for keeping caught fish alive. **8** (*in England*) the open space in the centre of a law court. **9** a source, esp. one that provides a continuous supply: *he is a well of knowledge*. ● *vb* **10** to flow or cause to flow upwards or outwards: *tears welled from her eyes*. [Old English *wella*; related to Old High German *wella* (German *Welle* wave), Old Norse *vella* boiling heat]

**we'll** (wiːl) *contraction of* we will *or* we shall

**well-advised** *adj* **well advised** *when postpositive*. **1** acting with deliberation or reason. **2** well thought out; considered: *a well-advised plan*

**well-affected** *adj* **well affected** *when postpositive*. favourably disposed (towards); steadfast or loyal.

**Welland Canal** ('welənd) *n* a canal in S Canada, in Ontario, linking Lake Erie to Lake Ontario: part of the St Lawrence Seaway, with eight locks. Length: 44 km (28 miles). Also called: **Welland Ship Canal**.

**well-appointed** *adj* **well appointed** *when postpositive*. well equipped or furnished; properly supplied.

**wellaway** ('welə'weɪ) *interj* *Archaic*. wael alas! [Old English, from *wel lā wel*, variant of *wā lā wā*, literally: woe! lo woe!]

**well-balanced** *adj* **well balanced** *when postpositive*. **1** having good balance or proportions. **2** of balanced mind; sane or sensible.

**wellbeing** ('welˈbiːɪŋ) *n* the condition of being contented, healthy, or successful; welfare.

**well-bred** *adj* **well bred** *when postpositive*. **1** Also: **well-born**. of respected or noble lineage. **2** indicating good breeding: well-bred manners. **3** of good thoroughbred stock: a well-bred spaniel.

**well-chosen** *adj* **well chosen** *when postpositive*. carefully selected to produce a desired effect: apt. *a few well-chosen words may be more effective than a long speech.*

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| **'well-ac'cepted** *adj* | **'well-adver,tised** *adj* | **'well-at'tended** *adj* | **'well-born** *adj* |
| **'well-ac'customed** *adj* | **'well-aimed** *adj* | **'well-at'tested** *adj* | **'well-'built** *adj* |
| **'well-ac'quainted** *adj* | **'well-aired** *adj* | **'well-au'thenti,cated** *adj* | **'well-'calcu,lated** *adj* |
| **'well-'acted** *adj* | **'well-argued** *adj* | **'well-a'ware** *adj* | |
| **'well-a'dapted** *adj* | **'well-armed** *adj* | **'well-be'haved** *adj* | |
| **'well-ad'justed** *adj* | **'well-ar'ranged** *adj* | **'well-be'loved** *adj*, *n* | |
| **'well-ad'ministered** *adj* | **'well-as'sorted** *adj* | **'well-'blessed** *adj* | |